WHAT IS CLAIMED IS:

- 1. A method of producing a magnetic disk, comprising: forming at least a magnetic layer on a disk substrate, and thereafter forming a carbon-based protection layer by plasma CVD using a mixed gas of a hydrocarbon-based gas and a nitrogen gas without containing an inactive gas under the condition that the disk substrate with the magnetic layer formed thereon is kept at a temperature higher than 200°C.
- A method according to claim 1, wherein:
 the mixed gas is a mixture of a low-molecular-weight straight-chain
 hydrocarbon-based gas and a nitrogen gas.
- A method according to claim 1, further comprising:
 exposing the carbon-based protection layer to nitrogen plasma after
 forming the carbon-based protection layer.
- A method according to claim 3, further comprising: forming a lubrication layer after exposing the carbon-based protection layer to nitrogen plasma.
- A method according to claim 1, wherein the magnetic disk is for use in a magnetic disk apparatus of a load/ unload system.